

DON'T FALL FOR IT. PREVENTION OF FALLS

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ABSTRACT

Falls constitute a major risk to the health, well-being, and independence of older adults. It serves as a precursor to frailty, which is a marker of illness, isolation, and is associated with higher mortality rates. An unaddressed fall leads to recurrent falls if risk factors are not identified and addressed. Risk factors for falls are multi-factorial, requiring a comprehensive head-to-toe approach for both intrinsic and extrinsic factors. Targeted bio-psycho-social interventions are effective, particularly in those with a history of falls. Falls are preventable if risk factors are identified early with the timely introduction of appropriate interventions.

Keywords: Falls, risk assessment, risk management, cognitive impairment, community resources

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CASE PRESENTATION

Mr N is a community ambulant, 74-year-old Chinese male.

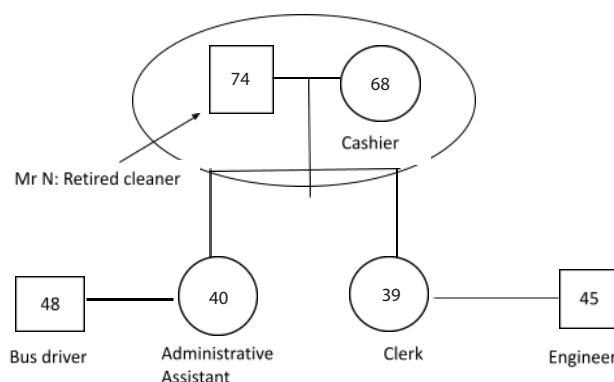
He has the following comorbidities:

- Hypertension on amlodipine 5mg OM and hydrochlorothiazide 12.5mg OM
- Hyperlipidaemia on atorvastatin 20mg ON
- Benign prostatic hypertrophy (BPH) with impaired detrusor contractility on alfuzosin XL 10mg ON, on follow up with Urology

Mr N is a retired cleaner who is married with two daughters. He stays with his wife alone in a HDB studio apartment with a lift landing. He does not smoke or drink alcohol.

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Figure 1: Family Genogram of Mr N



Mr N was admitted to an acute hospital for a fall with stable head injury due to an unsteady gait while rushing to the toilet. Physical examination did not reveal any significant physical findings. Investigations were unremarkable except for hyponatremia of 130mmol/L and CT brain showing mild periventricular and subcortical white matter hypodensities representing small vessel changes. The inpatient team attributed the fall to hyponatremia secondary to diuretic use. In addition, he developed acute urinary retention inpatient and an indwelling catheter (IDC) was inserted.

During his stay in the acute hospital, Mr N's family member noted that he often repeats himself and was worried about the onset of dementia. Mr N was given an outpatient neurology follow-up for this issue.

He was then transferred to the community hospital for rehabilitation where I was his attending physician.

Mr N's problem list include:

1. Increased fall risk with multi-factorial causes:
 - Giddiness from hyponatremia secondary to thiazide use
 - Mild cognitive impairment causing poor safety awareness
 - Lower urinary tract symptoms secondary to BPH with impaired detrusor contractility
2. Adverse social circumstances contributed by poor social support
3. Post obstructive diuresis secondary to IDC insertion

ADMISSION TO SENGKANG COMMUNITY HOSPITAL FOR REHABILITATION

Fall risk assessment

During my initial assessment, I revisited the history of falls and gathered that Mr N had three episodes of near fall in

the past year. They were triggered by a urinary urge from drinking up to five litres of water a day as Mr N felt it helped to improve the urinary flow. Hence, the etiology of fall was revised to symptomatic hyponatremia secondary to polydipsia and thiazide diuretic use and lower urinary tract symptoms from BPH. I screened for but did not find any signs of postural hypotension, cardiopulmonary disease, impaired visual acuity, balance or neurological disorder.

Recognizing that Mr N has misguided health perceptions, I educated him on the disease pathology of BPH with the aid of visual diagrams and managed to change his knowledge, attitudes and perceptions. Understanding that, he practiced fluid control, regular voiding and with balance fluid status, Mr N's sodium level normalised.

Extrinsic risk factors were also explored, with my therapist performing a home assessment and providing recommendations for reducing fall risk. It was picked up by my team that Mr N has multiple behavioural fall risk factors such as standing on an unstable stool to reach objects and failing to turn on the lights when using the bathroom at night. These were addressed by raising Mr N's safety awareness through educating him on safer strategies for accomplishing everyday tasks and activities. Mr N also agreed to home modifications such as installing grab bars and sitting toilets, with my MSW helping to apply for the EASE program and SMF for financial subsidies. Our physiotherapist taught Mr N exercises to strengthen his core and limb muscles, flexibility and endurance, reducing the risk of frailty. Day rehabilitation service was also initiated on discharge to ensure continuity of rehabilitation services.

I noticed his blood pressure was in the optimal range with dietary control and physical therapy despite hydrochlorothiazide being held off since admission, hence, the decision to stop hydrochlorothiazide was made. I communicated with a family physician at the polyclinic to monitor his blood pressure and for chronic disease follow-up. As part of preventive health measures, Mr N was administered pneumococcal and influenza vaccines.

Mild Cognitive Impairment

Following up on the history from family members on the increasing frequency of short-term memory loss in Mr N in the last two years, I did a workup for reversible causes of cognitive impairment. A detailed physical examination showed no significant neurological or parkinsonism signs elicited. I assessed him for depression, which was not present. Investigations done were unremarkable except for microvascular changes noted on the CT brain on admission. An MMSE was done for Mr N with a score of 24/30. A diagnosis of mild cognitive impairment secondary to vascular etiology was relayed to Mr N and his family. Furthermore, I liaised with a family physician in the polyclinic to follow up on vascular risk factor control and his cognitive status.¹

Management of post-obstructive diuresis

Inpatient, Mr N developed ARU requiring IDC insertion, complicated by post-obstructive diuresis (POD). For the management of POD, euvolemia was achieved with parenteral normal saline infusion, daily postural blood pressure measurement, weight recording and investigation to ascertain renal function.² Mr N's urine output gradually declined to one litre per day with no disruption of electrolytes or renal function. Prior to discharge, the team managed to successfully remove the IDC after increased ambulation during therapy and clearing of bowels.

Adverse social circumstances

During the day, Mr N stays at home alone during the day until his wife returns from work in the evening. His children are also not close to him due to his overbearing personality. To prevent social isolation, I recommended him to take on classes of his interest under the ActiveSG senior-centric programmes. As a keen botanist, he enrolled in the urban gardening class to keep him engaged and active during the day. I also referred him to the Community Networks for Seniors programme³ whereby community volunteers will engage him in finding new friends.

Discharge back to primary care service

Mr N achieved modified community independence and was able to ambulate safely with a walking stick. From subsequent liaison with the Polyclinic family physician, Mr N remained well in the community.

REFERENCES

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LEARNING POINTS

- **A multifactorial model of fall risk**

Fall risk assessment in an elderly requires an individualised and comprehensive approach to identify intrinsic health, extrinsic environmental and behavioural factors. To positively impact the well-being of patients such as Mr N, the family physician is the best person to lead a care plan based on the communicated goals of care.

- **“ABC” of aging: Active aging, Befriending, and Care and support**

Seniors like Mr N who has mild frailty, cognitive impairment and limited family support can tap on various home and community care services to help them age in place. The family physician who is proactive at engaging a broad based integrated service for the elderly will keep our seniors socially connected in the community.

- **The family physician as the ultimate patient’s advocate**

The essence of family practice is seeing the patient beyond a biomedical model and incorporating social factors into patient care. Person-centred care plays a key role in improving the health literacy of the individual thereby empowering them to develop a sense of responsibility towards good control of chronic disease and health promotion.
